

WHAT IS CLAIMED IS:

1. A network system comprising a session control server controlling a communication session created between at least two terminal devices; a presence server managing status information on one of said at least two terminal devices; and a communication line connecting said session control server, said presence server, and said terminal devices,

wherein said session control server comprises means for detecting a change in status information on a user of said terminal device or on said terminal device; and means for notifying said presence server of an update request for the status information when the change in the status information is detected.

2. A network system comprising a first server receiving a packet sent from a terminal device or a server for relaying the packet to another server or terminal device; a second server managing status information on a user of said terminal device or on said terminal device; and a communication line connecting said first server, said second server, and said terminal, wherein

said first server comprises means for detecting a change in the status information on said terminal device or on a user of said terminal device; and means for notifying said second server of an update request for the status

information when the change in the status information is detected.

3. The network system according to claim 1, wherein

said presence server comprises means for receiving the update request for the status information; and

means for storing the status information; and means for updating said means for storing based on the update request.

4. The network system according to claim 3, wherein

said presence server further comprises means for comparing the notified status information with some other status information on the terminal device or a user of the terminal device, to which the status information belongs, for checking consistency of the update request with the other status information.

5. The network system according to claim 4, wherein

said presence server rewrites the other status information so that, when the other status information is not consistent with the status information specified by the update request, the other status information becomes consistent with the status information specified by the update request.

6. The network system according to claim 1, wherein SIP (Session Initiation Protocol) is used.

7. A network system comprising one or more servers each having a function to monitor a communication session created between terminal devices; and a presence server in which status information describing the status of said terminal device or the status of a user of the terminal device is stored, wherein

said one or more servers has a protocol stack for use by SIP,

one of the servers other than said presence server monitors the communication session to detect a change in the status information, and

when the change is detected, the change in the status information is notified to said presence server.

8. A server connected via a network to a presence server managing status information on a user of a terminal device or on the terminal device, said server comprising:

an interface for connection to a communication line;

a communication control unit that analyzes the reception, and reforms header parameters, of a received packet and transfers the received packet, whose header parameters have been reformed, to said interface;

a status management unit that manages the status of a communication session created between the terminal devices on a certain expiration time basis;

a terminal location management unit that manages address information on the terminal device notified via said communication line;

means for detecting a change in information on the status of the communication session or in the address information; and

a presence information update unit that generates a presence information update message, which informs said presence server that the status information or the address information has changed, when the change is detected and issues an instruction to send the message to said communication control unit.

9. The server according to claim 8 wherein said means for detecting a change in information on the status of the communication session or in the address information receives a session control message or, from the terminal device, a location registration request message to detect the change.

10. The server according to claim 9 wherein said presence information update unit comprises means for checking if a terminal device belonging to the status information is a terminal device managed by said server and, only when the status information in which the change was detected belongs to

a terminal managed by said server, generates the presence information update message.

11.       The server according to claim 10 wherein  
          said means for checking if a terminal device belonging to the status information is a terminal device managed by said server compares the domain name of the address of the server with the domain name of the address of the terminal device and, when the domain names match, determines that the terminal is to be managed by the server.

12.       The server according to claim 8 wherein  
          said communication control unit has a protocol stack for use by SIP (Session Initiation Protocol) and  
          said presence information update unit assumes a moment, at which a 200 response message is received in response to an INVITE request message, as a time to change to a talking status and issues an instruction to send the presence information update message.

13.       The server according to claim 8 wherein  
          said communication control unit has a protocol stack for use by SIP (Session Initiation Protocol) and  
          said presence information update unit assumes a moment, at which an ACK message is received after a 200 response message is received in response to an INVITE request message, as a time to change to a talking status and issues an instruction to send the

presence information update message.

14.           The server according to claim 8 wherein  
              said communication control unit has a  
protocol stack for use by SIP (Session Initiation  
Protocol) and

              said presence information update unit assumes  
a moment, at which a BYE request is received, as a time  
to change to a terminating status and issues an  
instruction to send the presence information update  
message.

15.           The server according to claim 8 wherein  
              said communication control unit has a  
protocol stack for use by SIP (Session Initiation  
Protocol) and

              said presence information update unit assumes  
a moment, at which a 200 response message is received  
in response to a BYE request, as a time to change to a  
terminating status and issues an instruction to send  
the presence information update message.

16.           The server according to claim 8 wherein  
              said communication control unit has a  
protocol stack for use by SIP (Session Initiation  
Protocol) and

              said presence information update unit assumes  
a moment, at which a registration is made by a REGISTER  
message, as a time to change to an on-line status and  
issues an instruction to send the presence information  
update message.

17. The server according to claim 8 wherein  
said communication control unit has a  
protocol stack for use by SIP (Session Initiation  
Protocol) and

said presence information update unit assumes  
a moment, at which a registration is deleted by a  
REGISTER message, as a time to change to an off-line  
status and issues an instruction to send the presence  
information update message.

18. The server according to claim 8, further  
comprising:

means for reading information on an  
expiration date of the session specified by a control  
message issued in the communication session; and

means for comparing the message that has been  
read with the current time of day,

wherein said presence information update unit  
assumes a time, at which the current time of day has  
passed the expiration time, as a time to change the  
status of the communication session and issues an  
instruction to send the presence information update  
message.

19. The server according to claim 18 wherein  
said terminal location management unit has a  
timer to count the time of day, and

said presence information update unit assumes  
a time, at which the expiration time has expired, as a  
time to change the status to an off-line status and

issues an instruction to send the presence information update message.

20. The server according to claim 8, further comprising:

means for generating a PUBLISH message or REGISTER message including in a body thereof the status information or the address information,

wherein the PUBLISH message or REGISTER message is sent to said presence server as the presence information update message.

21. The server according to claim 20 wherein the body of the PUBLISH message or REGISTER message includes one of the following information: session type, information on the terminal device that has established the session, and information on a coding system and a communication speed used by the established session.

22. The server according to claim 8 wherein said communication control unit has a function to send a new request message.

23. A presence server, connected via a network to a session control server managing a communication session created between at least two terminal devices, for managing status information on said communication session, said presence server comprising:

an interface receiving a status information update message received from said session control server;



storage means for storing a plurality of status information pieces;

means for receiving the status information update request message sent from said session control server;

means for changing a content stored in said storage means; and

means for judging whether there is an inconsistency between the status information included in the update message (first status information) and other status information (second status information) stored in said storage means and belonging to a terminal to which the first status information belongs,

wherein, if there is an inconsistency between the first status information and the second status information, the second status information is made to match the first status information.

24. A communication control method for use in communication using one or more servers, each having a function to monitor a communication session created between terminal devices, and a presence server in which status information describing the status of the terminal devices or the status of a terminal user is stored, said method comprising the steps of:

starting a communication session using SIP (Session Initiation Protocol);

monitoring the communication session to detect a change in the status information; and

notifying, by one of the servers other than said presence server, the change in the status information to said presence server when the change is detected.

25. The communication control method according to claim 24, wherein a session control server with a function to manage the communication session is used as one of said one or more server.

26. The communication control method according to claim 24, wherein said notification is made by sending a PUBLISH message or REGISTER message, whose body includes the status information or address information on said terminal device, to the presence server.

27. The communication control method according to claim 26, wherein the body of the PUBLISH message or REGISTER message includes one of the following information:

session type, information on the terminal device that has established the session, and information on a coding system and a communication speed used by the established session.

28. A server control method for use by a server that has an interface and a control function, said interface provided for connection, via a communication line, to a presence server in which status information describing the status of a terminal device or a terminal device user is stored, said control function controlling a communication session created between at

least two terminal devices, said server control method comprising the steps of:

- monitoring the communication session to detect a change in the status information;

- generating an update request message about the status information when the change is detected; and

- sending the update request message to said interface.

29. A control program for use by a server that has an interface and a control function, said interface provided for connection, via a communication line, to a presence server in which status information describing the status of a terminal device or a terminal device user is stored, said control function controlling a communication session via SIP (Session Initiation Protocol) created between at least two terminal devices, said control program executing the steps of:

- monitoring the communication session to detect a change in the status information;

- generating an update request message about the status information when the change is detected; and

- sending the generated update request message to said interface.

30. The control program according to claim 29 wherein the step of generating an update request message about the status information includes the step of:

- generating a PUBLISH message or REGISTER

message whose body includes the status information and address on the terminal device.

31. . . . The control program according to claim 30, comprising the step of generating the PUBLISH message or REGISTER message whose body includes the following information: session type, information on the terminal device that has established the session, and information on a coding system and a communication speed used by the established session.